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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/363,733	07/30/1999	BYOUNG-JO J. KIM		8486

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SAMUEL H DWORETSKY
AT&T CORP
P O BOX 4110
MIDDLETOWN, NJ 07748

EXAMINER

SHAH, CHIRAG G

ART UNIT

PAPER NUMBER

2664

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/363,733

Applicant(s)

KIM ET AL.

Examiner

Chirag G Shah

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Referring to claim 20, the recitation and the method of integrating fixed wireless broadband access and a wireless local area radio network is vague and indefinite. The body of the claim fails to integrate fixed wireless broadband access and a wireless local area radio network.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 7, 8, 11, 14, 15, and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop (U.S. Patent No. 6,377,782) in view of Jaakkola (U.S. Patent No. 6,356,537).

Referring to claims 1, 8, and 15, Bishop discloses a method and an apparatus for communicating between a client device and a linear broadband network. Referring to figures 1 and 2, Bishop teaches of a subscriber access interface device (SAID), which communicates bi-directionally with a network access interface device (NAID) coupled to a linear broadband network. The SAID accepts upstream communication signals and

modulates and transmits the signal to the NAID. The NAID device receives and demodulates the signal and then modulates it for transmission on the linear broadband network. Referring to columns 7 and 8, SAID communicates with one of the NAIDs and provides LAN or wireless LAN connectivity at the subscriber premises or directly at a client device. It is evident that SAID can be viewed as an integrator as depicted by the invention. Bishop fails to explicitly illustrate that the signal in communicated by the NAID is a broadband signal. Jaakkola's invention teaches of broadband wireless communication between a base station and customer sites located within a geographical area and more particularly to an ATM Radio Interface Card (ARIC for use in a cellular broadband wireless communication system. Jaakkola discloses in figure 1 and columns 2-10 of a simple configuration of broadband wireless systems which embodies a network of network interface units (NIUs) connected to Base Stations (BSTs) via wireless links and the BSTs are connected to a Backbone Network via wired or point-to-point wireless links. The system is targeted at fixed wireless broadband applications such as point-to-point links. In addition, Jaakkola discloses that a single ARIC/NIU can transmit in a single downstream/upstream frequency channel, respectively as illustrated in figure 10. This clearly illustrates that a broadband radio signal transmitter /receiver is capable of transmitting and receiving at least one broadband radio signal belonging to fixed wireless broadband access. Therefore, it would have been obvious to one skilled in the art to modify Bishop's invention to include teaching of Jaakkola in order to optimally allow specific types of services to significantly enhance the applicability of integration between fixed wireless broadband access and a wireless local area radio networks.

Referring to claims 2, Bishop clearly shows in figure 8 and respective portions of the specifications, that there is a direct spread spectrum subscriber interface which is an IEEE 802.11 wireless DSS signal received by a receive antenna. Thus, the primary downstream function of the subscriber access interface unit is delivery of the appropriate signal to a designated destination client device. Bishop fails to explicitly include fixed wireless antenna. Jaakkola clearly shows in columns 7 and 8, that the transmitter and receiver perform conversion of the IF and RF signals, respectively and that they are connected directly to transmit and receive antennas. Thus, since RF signals uses wireless antenna and Jaakkola teaches of broadband radio signal, it would have been obvious to one of ordinary skill in the art to modify Bishop's invention to include the teaching of Jaakkola in order to enhance the use/applicability of broadband multipoint system.

Referring to claim 4 and 11, Bishop clearly shows in column 7 line 29 to column 8 line 22, that the destination client device is a uni-directional or bi-directional communication device and may be a telephone, a video device, a computer, or an audio device. Furthermore, the NAID receives downstream signal from a headend and wirelessly relays the downstream signal to the appropriate SAID (integrator); the integrator further distributes the downstream signal to an appropriate client device. Similarly, the integrator receives upstream signal from an initiation client device and wirelessly relays it to the NAID. Bishop fails to explicitly illustrate that the signal in communicated by the NAID is a broadband signal and where local area radio is adapted to transmit and receive signals from space within a building.. Jaakkola's invention teaches of broadband wireless communication between a base station and customer sites located within a geographical area and more particularly to an ATM Radio Interface Card

(ARIC for use in a cellular broadband wireless communication system. Jaakkola discloses in figure 1 and columns 2-10 of a simple configuration of broadband wireless systems which embodies a network of network interface units (NIUs) connected to Base Stations (BSTs) via wireless links and the BSTs are connected to a Backbone Network via wired or point-to-point wireless links. The system is targeted at fixed wireless broadband applications such as point-to-point links. In addition, Jaakkola discloses that a single ARIC/NIU can transmit in a single downstream/upstream frequency channel, respectively as illustrated in figure 10. Thus, an electronic device or a client is capable of transmitting and receiving at least one broadband radio signal to and from the integrator and an outside data communication source. Therefore, it would have been obvious to modify Bishop's invention to include the teachings of Jaakkola in order to deliver the appropriate bandwidth services to outside and inside the network.

Referring to claims 7 and 14, Bishop shows in column 14, lines 7-45 and figure 3, that an analog initiating client device such as a legacy telephone generates an upstream analog signal. In order to convert the upstream analog signal to the upstream baseband signal, the upstream analog signal is digitized to produce a corresponding digital signal. Digitizing, encoding and formatting operations may occur within the SAID in which case the SAID receives the upstream analog signal directly. Thus, at least one broadband radio signal or communication data may be either analog or digital in nature as claimed.

Referring to claim 18, Bishop shows column 5, lines 40-63, that SAID, in this case being an integrator, receives an upstream baseband signal from a client device, modulates the upstream baseband signal onto at least one upstream wireless radio frequency carrier to produce at least one first upstream modulated carrier signal, and

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wirelessly transmits at least one first upstream wireless modulated carrier signal. Thus, the steps of processing, modulating and transmitting at least one RF signal is performed by the integrator as in claim 18.

4. Claims 3, 16, 19 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop in view of Jaakkola as applied to claims 1, 2, 4, 7, 8, 11, 14, 15, and 18 above, and further in view of Miller.

Referring to claim 16 and 19, Bishop in view of Jaakkola teaches of the step of receiving is performed on signals by an antenna. Bishop in view of Jaakkola also teaches that the integrator may receive signal from the electronic device for transmission by at least an antenna. Bishop in view of Jaakkola fails to disclose that the integrator may receive a signal from the electronic device for transmission by a satellite dish and a cable. Miller teaches of a broadband data reception system and discloses in figure 1 and respective portions of the specification that the integrator may receive a signal from the electronic device from a satellite dish antenna or cable. Therefore, it would have been obvious to one skilled in the art to modify Bishop in view of Jaakkola's invention to include the teaching of Miller in order to illustrate a diversity of transmission methods may be utilized based on the application and the data throughput requirement.

Referring to claim 3 and 23, Bishop in view of Jaakkola fails to teach the system according to claim 1 further comprises a cable modem connected to a cable and having a wireless local area radio that operates in accordance with a schema that is the same as that in accordance with which the wireless local area radio of the integrator operates. Miller discloses of claims 1 and 2 and respective portions of the specification that an

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EtherNet station/interface is an active LAN station, which can be wireless, is coupled to the cable modem for transmitting data signals. Thus, it is apparent that the wireless local area radio transmits and receives in accordance with a schema that is the same as a schema of a network access interface device that is coupled to a cable. Therefore, it would have been obvious to one skilled in the art to modify Bishop in view of Jaakkola's invention to include teaching of Miller regarding using a cable modem as which the WLAN radio of the integrator operates in order to provide capability for the LAN to communicate outside the LAN with other data systems.

5. Claims 5, 6, 12, 13 and 20-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop in view of Jaakkola as applied to claims 1,2, 4, 7, 8, 11, 14, 15, and 18 above, and further in view of Mahany. (6.374, 311

Referring to claims 5, 6, 12, and 13, Bishop in view of Jaakkola fail to include the limitation wherein at least one broadband radio signal by the electronic device to and from the integrator and the outside data communication source is based upon at least one of a signal strength measurement and a channel interference measurement for each of the integrator and outside data communication source. Bishop in view of Jaakkola also fail to explicitly further disclose that the signal strength measurement and the channel interference measurement for each of the integrator and the outside data communication source are compared and from the comparison a determination of whether a transmission/reception crossover should be effected is carried out. Mahany teach of an RF local-area network capable of efficient and dynamic handling of data by routing communications between the RF terminals and the host computer through a network of intermediate base stations. Mahany discloses in columns 11 and 12 that the distance

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component is bias to path selection toward high-speed connection and that the signal strength are biased toward the link with the best signal strength. In addition, setting a minimum signal strength threshold helps prevent sporadic changes in the network. Based on this it is clear from this that since a wired and a wireless connection may be used, if a minimum threshold is set to switch or crossover if the signal strength is lower than -90dB and if the signal strength on channel 5 is -92dB on wireless connection, the device will crossover to the wired high speed broadband connection. Therefore, it would have been obvious to one skilled in the art to modify Bishop in view of Jaakkola's invention to include the teaching of comparison of signal strength as taught by Mahany in order to balance the load on the network.

Referring to claims 20-22, Bishop in view of Jaakkola teaches of at least one broadband radio signal and further teaches of the step of receiving is performed on signals by an antenna. Bishop in view of Jaakkola also teaches the step of interrogating an electronic device to pass information relating to at least one broadband radio frequency. Bishop in view of Jaakkola fails to teach the step of determining signal strength and a channel interference of two different signal channels and crossing over based on the best signal channel source. Mahany teach as discloses earlier, of an RF local-area network capable of efficient and dynamic handling of data by routing communications between the RF terminals and the host computer through a network of intermediate base stations. Mahany discloses in columns 11 and 12 that the distance component is bias to path selection toward high-speed connection and that the signal strength are biased toward the link with the best signal strength. In addition, setting a minimum signal strength threshold helps prevent sporadic changes in the network. Based

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on this it is clear from this that since a wired and a wireless connection may be used, if a minimum threshold is set to switch or crossover if the signal strength is lower than -90dB and if the signal strength on channel 5 is -92dB on wireless connection, the device will crossover to the wired high speed broadband connection. . Therefore, it would have been obvious to one skilled in the art to modify Bishop in view of Jaakkola's invention to include the teaching of comparison of signal strength as taught by Mahany in order to balance the load on the network

6. Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop in view of Jaakkola as applied to claims 1, 2, 4, 7, 8, 11, 14, 15, and 18 above, and further in view of Boer (U.S. Patent No. 5,706,428).

Referring to claim 17, Bishop in view of Jaakkola discloses a method and an apparatus for communicating between a client device and a linear broadband network. Bishop also teaches of a wireless connection between the initiating client device and the SAID, known communication protocols such as Home RF, Bluetooth, or IEEE 802.11. The client or electronic device may include telephone, computer, video etc. Bishop in view of Jaakkola fails to disclose explicitly that a local area antenna allows for transmission of at least one broadband radio frequency signal between the wireless local area radio and the electronic device. Referring to figure 1 and respective portions of the specification, Boer teaches wireless LAN which includes an access point which serves as base station and is connected to a cable which may be part of a backbone LAN connected to other devices and/or networks with which stations in the LAN may communicate. It is common knowledge that if a wireless network interface card on an electronic device

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(computer) is communicating with an access point (radio) wirelessly, then a local area antenna must be attached to or in the network interface card in order to receive and transmit packets and an RF signal. Therefore, it would have been obvious to one of ordinary skill to include the teachings of Boer in reference to wireless LAN into Bishop in view of Jaakkola's invention to illustrate that a local area antenna allows for transmission between local are radio and electronic device.

Response to Arguments

1. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 305-3988, (for formal communications intended for entry)

Or:

(703) 305-3988 (for informal or draft communications, please label
"Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639.

The examiner can normally be reached on M-F 7:30 to 4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 301-305-4366. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

cgs

October 23, 2002

